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BOOK REVIEW

From Stars To Stalagmites. How Everything Connects

Paul S. Braterman

World Scientific Publishing Company. 2012, 316 p. ISBN 978-981-4324-97-7, 26.00 GBP

This fine book offers a wide range of significant scientific subjects, viz., the age of the Earth, atoms and molecules, the discovery of the noble gases, the problem of the ozone hole, the greenhouse effect, nucleosynthesis, stellar evolution, and so on. The book also contains an interesting presentation of facts related to global warming, a very detailed chapter on metals, and a very useful chapter on uncertainty. The last chapter describes the events from the Big Bang to the present day.

The subjects treated in each chapter of the book are of prime scientific interest, and some topics illustrate important interactions between scientific developments and society. Each theme is presented within its historical and intellectual context, and is discussed in clear and well-written non-technical language. As such, the combination of history and science writing is extremely fruitful as seen from the educational perspective.

Paul Braterman clearly explains simple concepts that are often misunderstood – for example, the difference between mass and weight. He also explains units, and provides etymological background information on Greek and Latin words and terms that are used in science. The author pays ample attention to models – crude as well as more sophisticated – with due attention for the simplifying assumptions of the underlying scientific theories. In addition, he also focuses on physical mechanisms.

The book continuously explains how science works, and explicates what makes science so difficult to manage. The author also touches on the impact of science on society, and he poses many – apparently rhetorical – questions, and gives fitting answers. Reference is made to stubbornness and conservatism in science, as well as to the ever changing attitudes vis-a-vis shared authorship. The finishing paragraph of the book simply lists some misconceptions of great thinkers from Epicurus to Bohr.

This book is very well typeset, with very few typographical errors. Regrettably, the volume contains almost no graphical illustrations, although some concepts like, for example, the Hubble law, would very much deserve graphical explanation.

The readership of this book consists of science students (physics, chemistry, astronomy, but also the Earth sciences), scientists, teachers, PhD supervisors, and science administrators. The book is great value for the money.

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